PHNL 010082

ABSTRACT OF THE DISCLOSURE

Noise reduction is an important feature in consumer
television. This is realized by spatial, temporal or spatio-
5   temporal filters. Spatial filters require pixels from within one
image, while temporal filters require samples from two or more
successive images. The spatio-temporal filter unit (100) integrates
spatial and implicit motion-compensated temporal noise reduction in
one filter. For the motion compensation, no motion vectors are
10   required. The spatio-temporal filter unit (100) is provided with a
sigma filter (112) having one filter kernel (107) designed to
operate on the pixels from both a current image and from the output
of the spatio-temporal filter unit, being a temporally recursive
filtered image. The operation of the spatio-temporal filter unit
15   (100) can be adjusted by varying the thresholds of the sigma filter
(112) and the selection of pixels. The adjustments can be
controlled by a motion estimator (222), a motion detector (224) and
a noise estimator (220).